

# RES SLT Quality Batteries for Renewable Energy Storage



BATTERIES



SOLAR PV



WIND



GENSET



# SUNLIGHT

creating energy

## RES SLT OVERVIEW

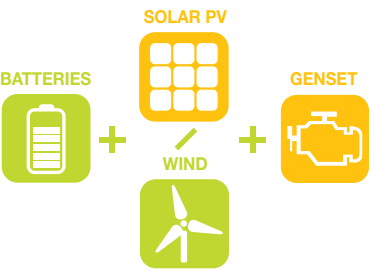
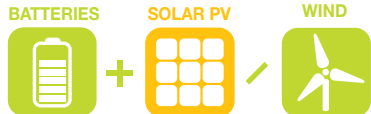

### Quality Batteries for Renewable Energy Applications

RES SLT is a **quality range** of batteries designed for **daily cycling operation** offering significant benefits in terms of **cost per cycle**. Their **long life** and remarkably high **performance** suits ideally to the demanding **Renewable Energy Storage** applications.

<b>RES SLT</b> Vented Tubular Plate Batteries	<b>RES SLT GEL</b> Sealed GEL Batteries
	
<p><i>Manufactured at European production facilities, certified with ISO 9001 &amp; ISO 14001</i></p>	

## APPLICATIONS

**Indicative Battery-Based Power Supply Systems**

		
<p><b>Residential Installations</b> Off-grid or smart grid connected power systems electrifying homes</p> <p><b>Traffic Systems</b> Signaling and lighting roads, railways, airports and marines</p> <p><b>Remote Monitoring &amp; Controlling</b> Flow and pressure metering, instrumentation and measurements, process automation, Supervisory Control &amp; Data Acquisition (SCADA), security monitoring devices</p>		

## QUALITY FEATURES & PRODUCT BENEFITS

### Long cycle life

Batteries engineered to sustain their capacity for a high number of cycles offering exceptional efficiency for daily deep cycling applications.

### Outstanding performance

Tubular plate design, exclusive use of high quality raw materials and sophisticated production processes in European manufacturing facilities ensure efficiency, durability and reliability under demanding conditions such as remote locations and the intermittent nature of solar and wind power generation.

### Ease of handling

Designed for optimal space utilization, quick installation and easy maintenance.

### Availability

Fast delivery for catalogue models. On request a wider range of special batteries for customer's special requirements can be supplied.

### Peace-of-mind

24x7 experienced pre-sales and after sales support through SUNLIGHT Global Partners Network.

### Optimum Total Cost of Ownership (TCO)

Low cost per cycle. Lifetime value is maximized especially at hybrid systems where using batteries can greatly reduce the Genset daily run time resulting on fuel savings and less CO<sub>2</sub> emission.

**The ideal energy solution for Renewable Energy Storage applications**

## ADDED VALUE SERVICES

Design and implementation of turnkey solutions

Installation & maintenance services according to EN50272-2 safety requirements (CE compliance)

360° Technical Support 24x7 through SUNLIGHT Global Partners Network

Training and consulting

Battery Collection and Recycling Services

## Why SUNLIGHT?

- 30 years of Experience in Battery Business
- "One Stop Solution"
- Extensive Global Know-how
- Exceptional Customer Service

# RES SLT

## Vented Tubular Plate Batteries



Type	RES SLT 12-50	RES SLT 12-80	RES SLT 12-120	RES SLT 12-170
Voltage (V):	12	12	12	12
Length (mm):	205	265	308	345
Width (mm):	175	175	175	170
Height* (mm):	190	210	225	285
Weight (kg):	13.9	19.9	27.2	38.4
Number Of Batteries Per Europallet:	72	48	56	36

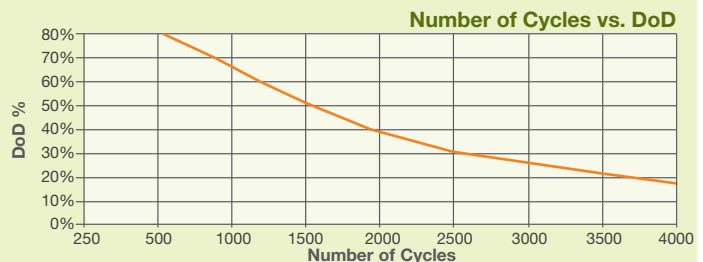
\*includes poles

### Capacity (Ah at 20°C)

Type	C240 1.85 Vpc	C120 1.85 Vpc	C72 1.85 Vpc	C48 1.80 Vpc	C24 1.80 Vpc	C12 1.80 Vpc	C10 1.80 Vpc	C5 1.75 Vpc	C2 1.70 Vpc
RES SLT 12-50	61	53	52	53	45	41	39	36	28
RES SLT 12-80	95	82	81	83	70	63	60	56	44
RES SLT 12-120	144	125	123	126	106	96	92	85	66
RES SLT 12-170	201	173	170	175	147	134	127	118	92
RES SLT 12-220	255	220	216	222	186	170	162	150	117
RES SLT 6-270	314	271	267	274	230	210	200	185	144
RES SLT 6-290	340	293	289	297	249	227	216	200	156
RES SLT 6-380	450	388	382	393	329	300	286	265	207
RES SLT 6-460	544	469	462	474	398	363	345	320	250

### Key Benefits

A remarkably high number of cycles that offers exceptional efficiency for daily cycling applications. The cycle life rating allows the determination of the true value of the battery over its life by understanding the total cost of ownership.



### Vented tubular plate design is superior because of the following technical features

#### Features

- Higher active mass surface area than plain flat plates
- No active material shedding
- Reduced grid corrosion
- Reduced self-discharge rate
- Quality and homogeneity

#### Benefits

- ✓ Long cycle life
- ✓ Excellent cycling properties
- ✓ High capacity performance
- ✓ Increased endurance even in cases of poor charging conditions



**RES SLT 12-220**

**RES SLT 6-270**

**RES SLT 6-290**

**RES SLT 6-380**

**RES SLT 6-460**

<b>12</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>
<b>510</b>	<b>260</b>	<b>260</b>	<b>305</b>	<b>305</b>
<b>222</b>	<b>180</b>	<b>180</b>	<b>188</b>	<b>188</b>
<b>225</b>	<b>275</b>	<b>275</b>	<b>365</b>	<b>365</b>
<b>47.3</b>	<b>29.9</b>	<b>32.5</b>	<b>47.9</b>	<b>50.5</b>
<b>28</b>	<b>48</b>	<b>48</b>	<b>28</b>	<b>28</b>

## Operation

**Number of cycles:** 1200 cycles (@60% DoD, 20°C)

**Maintenance:** Low topping up requirements.

**Operating temperature:** Min: -20°C / Max: 45°C. Recommended 15°C to 35°C.

**Self discharge rate:** Approx. 2% per month at 20°C.

**Storage Time:** Maximum shelf life up to 5 months at 20°C, 4 months at 30°C or 2 months at 40°C.

**Recommended Charging Voltage:** 2.25 to 2.30 V/cell (stand-by use at 20°C), 2.35 to 2.45 V/cell (cycle use at 20°C).

## Design

**Positive plates:** Tubular plates with optimized anticorrosion characteristics due to the use of special low antimony lead alloy. Tubes filled by injection with active material (mixture of lead oxide and red lead).

**Negative plates:** Plates composed of reinforced grids design pasted with optimized lead alloy.

**Separators:** High-porosity separators with minimal internal resistance.

Secured insulation between positive and negative plates.

**Electrolyte:** Optimized electrolyte density (acid-water), for proper ionic exchange.

**Container, lid material:** Corrosion-resistant polypropylene material. Lids completely heat sealed.

**Terminals:** Automotive Post type. On the same side for 12V blocks and diagonally for 6V blocks.

**Valves:** Filler caps with vent valves for proper battery ventilation.

# RES SLT GEL

## Sealed GEL Batteries



Type	RES SLT GEL 12-60	RES SLT GEL 12-90	RES SLT GEL 12-120	RES SLT GEL 12-150
Voltage (V):	12	12	12	12
Length (mm):	240	308	345	345
Width (mm):	175	175	170	170
Height* (mm):	190	225	235	285
Weight (kg):	19.9	29.0	35.1	42.7
Number Of Batteries Per Europallet:	57	30	24	24

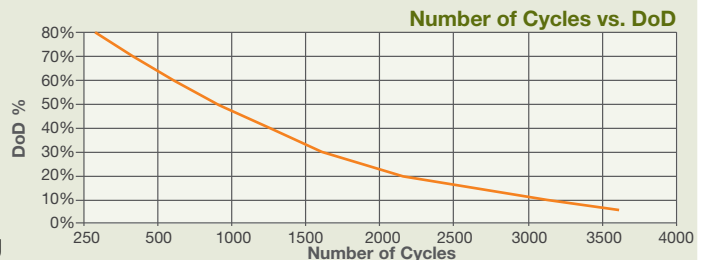
\*includes poles

### Capacity (Ah at 20°C)

Type	C240 1.85 Vpc	C120 1.85 Vpc	C72 1.85 Vpc	C48 1.80 Vpc	C24 1.80 Vpc	C12 1.80 Vpc	C10 1.80 Vpc	C5 1.75 Vpc	C2 1.70 Vpc
RES SLT GEL 12-60	71	62	61	62	52	48	45	42	33
RES SLT GEL 12-90	110	95	94	96	81	74	70	65	51
RES SLT GEL 12-120	144	125	123	126	106	96	92	85	67
RES SLT GEL 12-150	178	154	151	156	131	119	113	105	82
RES SLT GEL 12-200	233	201	198	203	170	155	148	137	107
RES SLT GEL 12-240	280	242	238	245	205	187	178	165	129
RES SLT GEL 6-260	306	264	260	267	224	204	194	180	140
RES SLT GEL 6-360	425	366	361	371	311	284	270	250	195

### Key Features & Benefits

- **Maintenance free VRLA technology** eliminates periodic water refilling associated with vented lead acid batteries.
- **No electrolyte stratification** due to its electrolyte GEL form. The electrolyte formulation produces a homogenous GEL that delivers consistent performance and long cycle life. The gelled electrolyte gives better protection to the battery plates, and is better suited for deep cycle discharge applications.
- **Leak proof** due to GEL technology. The use of gelled electrolyte means there is no free acid inside the cell. So the batteries are completely spillproof and are suitable for many available options of vertical or horizontal installation.
- **Premium grade separators** allow maximum charge flow between the plates for optimum performance even in harsh conditions.





**RES SLT GEL 12-200**

**RES SLT GEL 12-240**

**RES SLT GEL 6-260**

**RES SLT GEL 6-360**

12	12	6	6
513	517	244	305
218	270	192	180
215	240	275	365
60.5	71.0	34.1	54.3
14	12	36	15

## Operation

**Number of cycles:** 600 cycles (@60% DoD, 20°C).

**Maintenance:** Maintenance-free design without topping-up needs.

**Operating temperature:** Min: -20°C / Max: 45°C. Recommended 15°C to 35°C.

**Self discharge rate:** Approx. 2% per month at 20°C.

**Storage Time:** Maximum shelf life up to 6 months at 20°C, 4 months at 30°C or 2 months at 40°C.

**Recommended Charging Voltage:** Recommended Charging Voltage: 2.25 to 2.30 V/cell (stand-by use at 20°C), 2.35 to 2.45 V/cell (cycle use at 20°C).

## Design

**Positive plates:** Flat plates with lead calcium tin grid.

**Negative plates:** Plates of reinforced grids design pasted with optimized lead alloy.

**Separators:** High-porosity separators with minimal internal resistance.

Secured insulation between positive and negative plates. Free flow of electrolyte throughout the cell.

**Electrolyte:** Sulphuric acid immobilised as a GEL.

**Container, lid material:** Corrosion-resistant polypropylene material. Lids completely heat sealed.

**Terminals:** Automotive Post type. On the same side for 12V blocks and diagonally for 6V blocks.

**Pressure relief valve:** One way valve with flame arrestor.

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